Response to Finnish Claims Regarding Carcinogens in ETS

Environmental tobacco smoke (ETS) consists of aged and diluted remnants of sidestream smoke (SSS) from the burning end of a cigarette and exhaled mainstream smoke. Claims of carcinogens in ETS are primarily based on reports that suspected carcinogens may be constituents of SSS. In some instances, through the use of highly sensitive measurement devices, it has been reported that ETS also may contain minute amounts of such potential carcinogens. Based on such reports, it has been claimed that ETS is a cause of cancer among nonsmokers. This claim, however, is highly questionable, when the extremely dilute nature of ETS is examined in relation to workplace standards for airborne constituents.

The United States Occupational Safety and Health Administration has adopted workplace standards for exposure to a wide range of substances, and these standards include some of the substances reportedly in SSS and ETS. These standards are reflected in threshold limit values (TLV), which were recommended by the American Conference of Governmental Industrial Hygienists.[1] Data on levels of several ETS constituents in indoor environments have been summarized in a 1986 report from the National Research

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1. American Conference of Governmental Industrial Hygienists. Documentation of the Threshold Limit Values and Biological Exposure Indices, 5th ed., Cincinnati, OH, 1986.

Council.[2] For those constituents with workplace standards, it would take hundreds, or even thousands, of cigarettes ignited continuously in an enclosed, unventilated environment for these constituents to reach the corresponding TLVs[3]. Therefore, the claim that ETS contains constituents that are associated with cancer in nonsmokers is not convincingly supported by either actual exposure data or workplace standards for exposure to airborne substances.

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2. National Research Council. Environmental Tobacco Smoke: Measuring Exposures and Assessing Health Effects, National Academy Press, Washington, DC, 1986.

3. Aviado, D.M., "Suspected Pulmonary Carcinogens in Environmental Tobacco Smoke," Environmental Technology Letters 9(6): 539-544, 1988.

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